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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|-------------------------|---------------------|------------------|
| 09/582,872 | 08/25/2000 | Hermanus G. Grobbenhaar | 00771.00004 | 3203 |
| 22907 | 7590 | 05/26/2004 | EXAMINER | |
| BANNER & WITCOFF 1001 G STREET N W SUITE 1100 WASHINGTON, DC 20001 | | | TRAN, HIEN THI | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 1764 | |

DATE MAILED: 05/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|-------------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 09/582,872 | GROBBENHAAR, HERMANUS G | |
| | Examiner | Art Unit | |
| | Hien Tran | 1764 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 August 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>7/6/00</u> . | 6) <input type="checkbox"/> Other: ____. |

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DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: “27” (page 7, line 32). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: “26” (Fig. 5). A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
3. The drawings have not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the drawings to comply with CFR 1.84(p)(5), e.g. they should include the reference sign(s) mentioned in the specification and vice versa.

Specification

4. The disclosure is objected to because of the following informalities:

On page 4, line 30 --or pipes-- should be inserted before “1” (note lines 14, 18).

On page 7, line 32 “27” should be changed to --26-- (note Fig. 5).

Appropriate correction is required.

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5. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors.

In claim 1, it is unclear as to what structural limitation applicant is attempting to recite and where the body of the claim begins; in lines 5 and 6-7 "the separating walls" lacks positive antecedent basis; in line 9 "the point of rotation" lacks positive antecedent basis; in lines 9-11 it is unclear as to what applicant is attempting to recite; in line 10 it is unclear as to which passages are implied.

In claim 3, the language of the claim is redundant (note lines 9-11 of claim 1) and it is unclear as to how many is considered as "so large".

In claim 4, "the boundary surface" has no clear antecedent basis; also it is unclear as to whether "the boundary surface towards the second pipe piece" is the same as to the "boundary surface between the pipe pieces" set forth in claim 1, line 8.

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In claim 5, it is unclear as to what structural limitation applicant is attempting to recite, how come the cross-section the pipe pieces is substantially equal as set forth in claim 1, and in the same time, the diameter of the first pipe piece is smaller than that of the second pipe piece.

In claim 9, line 2 “the outer walls” has no clear antecedent basis.

In claim 11, lines 2-3 “the outer wall” has no clear antecedent basis; in line 2 it is unclear as to how the passage is related to the at least two passages set forth in claim 1, line 4.

In claim 12, line 4 “the relevant pipe piece” has no clear antecedent basis. See claim 13 likewise.

In claim 13, it is unclear as to where the insulating layer is and where it is shown in the drawings.

In claim 14, it is unclear as to what structural limitation applicant is attempting to recite, whether the connection comprises the two pipe pieces or the two pipe pieces are parts outside of the connection and connected to the connection via the cone.

In claim 15, line 2 “the exhaust pipe” has no clear antecedent basis.

In claim 16; “the boundary surfaces” has no clear antecedent basis and also it is unclear as to how they are related to the boundary surface set forth in claim 1, line 8.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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9. Claims 1, 7, 9-10, 12-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Hall (4,188,784).

With respect to claim 1, Hall discloses a connection between a first pipe piece 12 and a second pipe piece 15, wherein the cross-section of both pipe pieces is substantially equal, wherein the connection allows at least a mutual angular displacement of the axis of both pipe pieces in a plane extending through both axes, wherein the first pipe piece 12 comprises at least two passages 13x, 13y, the second pipe piece 15 comprises at least two passages 15x, 15y, and in any mutual position of the pipe pieces, the separating walls 28 between the passages in the first pipe piece 12 at least practically make contact with the separating walls 29 between the passages in the second pipe piece 15, characterized in that both pipe pieces have a round cross-section and that the boundary surface between the pipe pieces extends substantially as a sphere 13 with the point of rotation of the pipe pieces as center and that the number of passages 15x, 15y in the second pipe piece 15 is so large that the cross-section of the passages is at least two orders of magnitude smaller than the cross-section of the second pipe piece 15 (Figs. 3-4; col. 3, line 58 to col. 4, line 62).

With respect to claim 7, both pipe pieces of Hall form part of the exhaust system (note col. 1, lines 9-15).

With respect to claims 9-10, Hall discloses provision of the outer walls of the pipe pieces each provided with a bent edge, which edges are coupled in mutually elastic manner via spring 20 (Fig. 3).

With respect to claims 12-14, Hall discloses provision of a sleeve or cone 13 surrounding the pipe piece, and an insulating layer 17 therebetween.

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Instant claims 1, 7, 9-10, 12-14 structurally read on the apparatus of Hall.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

12. The art area applicable to the instant invention is that of catalytic converter.

One of ordinary skill in this art is considered to have at least a B.S. degree, with additional education in the field and at least 5 years practical experience working in the art; is aware of the state of the art as shown by the references of record, to include those cited by applicants and the examiner (*ESSO Research & Engineering V Kahn & Co*, 183 USPQ 582 (1974) and who is presumed to know something about the art apart from what references alone teach (*In re Bode*, 193 USPQ 12, (16) CCPA 1977); and who is motivated by economics to depart from the prior art to reduce costs consistent with the desired product characteristics. *In re Clinton* 188 USPQ 365, 367 (CCPA 1976) and *In re Thompson* 192 USPQ 275, 277 (CCPA 1976).

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13. Claims 1-3, 5-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weber et al in view of Hall (4,188,784).

With respect to claims 1, 7, 9-10, 12-14, Weber et al discloses a connection a connection 40 between a first pipe piece 4, 6 and a second pipe piece 22, wherein the cross-section of both pipe pieces is substantially equal, wherein the connection allows at least a mutual angular displacement of the axis of both pipe pieces in a plane extending through both axes, wherein the first pipe piece comprises at least two passages 8, 10, the second pipe piece 22 comprises at least two passages, and in any mutual position of the pipe pieces, the separating walls between the passages in the first pipe piece 4, 6 at least practically make contact with the separating walls 28 between the passages in the second pipe piece 22, characterized in that both pipe pieces have a round cross-section and that the number of passages in the second pipe piece 22 is so large that the cross-section of the passages is at least two orders of magnitude smaller than the cross-section of the second pipe piece 22 (Fig. 3).

The apparatus of Weber et al is substantially the same as that of the instant claim, but fails to disclose the specific connection with the boundary surface between the pipe pieces extends substantially as a sphere 13 with the point of rotation of the pipe pieces as center.

However, all of the comments with respect to Hall regarding claims 1, 7, 9-10, 12-14 apply. Furthermore, Hall teaches a connection with the boundary surface between the pipe pieces extends substantially as a sphere 13 with the point of rotation of the pipe pieces as center.

It would have been obvious to one having ordinary skill in the art to substitute the specific connection of Hall for the connection of Weber et al since such connection of Hall

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provides a good connection with improved durability, efficiency, simplicity and economy of construction, replacement and operations as taught by Hall.

With respect to claims 2-3, Weber et al discloses that the second pipe piece is provide with the passage larger than two (note Fig. 5 with a plurality of channels 34a).

With respect to claims 5-6, Weber et al discloses that the diameter of the first pipe piece is smaller that of the second pipe piece (note part #30). Weber et al also discloses provision of a first pipe piece with a conical part. Furthermore, Hall discloses provision of a conical part 13.

With respect to claims 7-8, 15, Weber et al discloses that both pipe pieces form part of an exhaust system of a motor vehicle and that the first pipe piece forms a connection between an engine 52 of a motor vehicle and a catalytic converter 30, and that the second pipe piece is formed by a converter housing 30.

With respect to claim 11, Weber et al discloses a passage 10 located concentrically of the outer wall (Fig. 4).

14. Claims 4 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weber et al in view of Hall (4,188,784) as applied to claims 1-3, 5-15 and further in view of Gary (3,189,418) or GB 1,455,351.

Gary and GB 1,455,351 disclose the conventionality of providing a catalyst substrate having concave/convex boundary surface.

It would have been obvious to one having ordinary skill in the art to substitute the catalyst substrate of Gary and GB 1,455,351 for the catalyst substrate of Weber et al for providing a more uniform resident time for the exhaust gas in the passages.

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Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


Foster is cited for showing state of the art.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hien Tran whose telephone number is (571) 272-1454. The examiner can normally be reached on Tuesday-Friday from 7:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HT
May 20, 2004


Hien Tran
Primary Examiner
Art Unit 1764